

Please amend claims 1, 11, 15, 18, 19, 24-26, 28, and 30 with the clean versions provided immediately below to read as follows:

1. (Twice Amended) A synthetic polynucleotide comprising a sequence encoding a codon-optimized human papillomavirus serotype 16 (HPV16) protein wherein said polynucleotide sequence comprises codons that are optimized for expression in a human host.

11. (Amended) A synthetic polynucleotide which comprises a sequence of nucleotides as set forth in FIGURE 2 (SEQ. ID.NO:2).

15. (Amended) A synthetic polynucleotide which comprises a sequence of nucleotides as set forth in FIGURE 3 (SEQ. ID.NO: 3).

18. (Amended) A synthetic polynucleotide which comprises a sequence of nucleotides as set forth in FIGURE 4 (SEQ. ID.NO:4).

19. (Twice Amended) An adenoviral vaccine vector comprising an adenoviral genome with a deletion in the E1 region, and an insert in the E1 region, wherein the insert comprises an expression cassette comprising:

a) a polynucleotide encoding a codon-optimized HPV16 protein selected from the group consisting of L1, E1, E2, and E7 proteins, wherein said polynucleotide is codon-optimized for expression in a human host cell; and

b) a promoter operably linked to the polynucleotide.

24. (Twice Amended) A method for inducing immune responses to HPV16 in a human subject which comprises administering to the subject between 1 ng and 100 mg of the composition of Claim 1.

25. (Twice Amended) A method for inducing immune responses to HPV16 in a human subject which comprises administering to the subject between  $10^{11}$ - $10^{12}$  particles of an adenoviral vector carrying the composition of Claim 1.

26. (Twice Amended) A method for inducing an immune response against human papillomavirus type 16 (HPV16) in a human subject, comprising

a) administering to the subject a first vector comprising a polynucleotide encoding a codon-optimized HPV16 protein selected from the group consisting of L1, E1, E2,

and E7 proteins, wherein said polynucleotide is codon-optimized for expression in a human host cell;

- b) allowing a predetermined amount of time to pass; and
- c) administering to said subject a second vector comprising adenoviral vaccine vector comprising an adenoviral genome with a deletion in the E1 region, and an insert in the E1 region, wherein the insert comprises an expression cassette comprises
  - i) a polynucleotide encoding a codon-optimized HPV16 protein selected from the group consisting of L1, E1, E2, and E7 proteins, wherein said polynucleotide is codon-optimized for expression in a human host cell; and
  - ii) a promoter operably linked to the polynucleotide.

28. (Twice Amended) A method for inducing immune responses to HPV16 in a human subject comprising

- a) administering to the subject a plasmid vaccine, wherein the plasmid vaccine comprises a plasmid portion and an expression cassette portion, the expression cassette portion comprising:
  - i) a polynucleotide encoding a codon-optimized HPV16 protein selected from the group consisting of L1, E1, E2, and E7 proteins, wherein said polynucleotide is codon-optimized for expression in a human host cell; and
  - ii) a promoter operably linked to the polynucleotide;
- b) allowing a predetermined amount of time to pass; and
- c) administering to said subject an adenoviral vaccine vector comprising an adenoviral genome with a deletion in the E1 region, and an insert in the E1 region, wherein the insert comprises an expression cassette comprising:
  - i) a polynucleotide encoding a codon-optimized HPV16 protein selected from the group consisting of L1, E1, E2, and E7 proteins, wherein said polynucleotide is codon-optimized for expression in a human host cell; and
  - ii) a promoter operably linked to the polynucleotide.

30. (Twice Amended) A method of making a codon-optimized HPV16 protein comprising expressing in a human host cell a synthetic polynucleotide encoding a human papillomavirus serotype 16 (HPV16) protein, wherein said polynucleotide sequence comprises codons optimized for expression in a human host.